



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,442	04/21/2005	Trent Michael Victor Kaiser	THAS125168	3904
26389 7590 03/13/2008 CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347				
EXAMINER DAVIS, MARY ALICE				
ART UNIT		PAPER NUMBER		
3748				
MAIL DATE		DELIVERY MODE		
03/13/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/532,442

Applicant(s)

KAISER ET AL.

Examiner

MARY A. DAVIS

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 8, 10, 12, 13 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 10 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 12-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Receipt and entry of Applicants' Amendment filed on 15 February 2008 is acknowledged. Currently claims 1-3, 8, 10, 12-13, and 19 are pending in this application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation to a "major sealing location" and a "minor sealing location". What makes a sealing location major or minor? The Examiner is construing that the elastomer coating needs to have varying thicknesses along the interior circumference of the stator.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2 and 12-13 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over PLOP ET AL (U.S. Patent Publication US 2003/0138338 A1).

Regarding claims 1 and 13, PLOP ET AL discloses:

- A Moineau stator, comprising:
- a thick-walled externally unsupported tube (32) (see Figure 4) having a thickness such that the stator structure is able to resist pressure, torque, and axial loads experienced in its intended operating environment (it is inherent that the stator structure is able to resist the pressure, torque, and axial loads experienced in its intended operating environment), lobes (46) (see Figure 4) arranged in a configuration which is adapted to interact with a rotor (34) (see Figure 4) and formed through a hydroforming process (PLOP ET AL discloses that the tube is formed by "any means known in the art including machining, extrusion, and the like"(Page 2, ¶0017). The claimed phrase "formed through a hydroforming process" is being treated as a product by process limitation; that is, that the tube is made by a hydroforming process. As set forth in MPEP 2113, product by process claims are NOT limited to the manipulations of the recited steps, only to the structure implied by the steps. Once a product appearing to be substantially the same or similar is found, a 35 U.S.C. 102/103 rejection may be made and the burden is shifted to applicant to show an unobvious difference. See MPEP 2113.

Thus, even though PLOP ET AL is silent as to the hydro forming process used to form the tube, it appears that the product in PLOP ET AL would be the same or similar as that claimed).

Regarding claim 2, PLOP ET AL discloses:

- the tube has an elastomer coated interior (36) adapted to form a liquid seal with the rotor (Page 2, ¶¶0016 - ¶¶0021).

Regarding claim 12, PLOP ET AL discloses:

- there is an unequal preferential circumferential distribution of elastomer coating at intervals along the interior circumference of the tube (see Figure 4 (TA, TB0), with a thicker elastomer coating at major sealing locations and a thinner elastomer coating at minor sealing locations (Page 2, ¶¶0016 - ¶¶0021, the elastomer coating is disclosed to provide the proper sealing ability by utilization of different coating thicknesses).

Claim Rejections - 35 USC § 103

7. In the alternative, Claims 1-2 and 12-13 are rejected 35 U.S.C. 103(a) as being unpatentable over PLOP ET AL in view of either one of the following: MARANDO (U.S. Patent 5,927,120), or BIRD ET AL (Hydroforming Applications at Oak Ridge, March 15, 1999; For Presentation at the Society of Manufacturing Engineers, March, 1999).

PLOP ET AL discloses the claimed invention as discussed above including the stator being formed "by any means known in the art including machining, extrusion, and the like (Page 2, ¶¶0017). However, PLOP ET AL fails to disclose the tube is

manufactured using a hydroforming process. MARANDO and BIRD ET AL both disclose forming thick-walled tubes using a hydroforming process (Abstract of MARANDO; Page 1, ¶2 of BIRD ET AL). Furthermore, the hydroforming process involves placing the tube into a hydroforming fixture (see Figures 2-4, Column 10, line 63 – Column 11, line 12 of MARANDO; see Figures 1- 3, Page 1, ¶2 – Page 2, ¶1 of BIRD ET AL) to form the lobes that interact with the rotors (as discussed above).

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have formed the thick-walled tube by a hydroforming process in PLOP ET AL, since the method of manufacturing thick-walled tubes by the hydroforming process is well known (see MARANDO and BIRD ET AL).

8. Claims 1 and 3 are rejected 35 U.S.C. 103(a) as being unpatentable over BOTTOS ET AL (U.S. Patent 6,309,195 B1) in view of either one of the following: MARANDO (U.S. Patent 5,927,120), or BIRD ET AL (Hydro forming Applications at Oak Ridge, March 15, 1999; For Presentation at the Society of Manufacturing Engineers, March, 1999).

Regarding claim 1, BOTTOS ET AL discloses:

- A Moineau stator, comprising:
- a thick-walled externally unsupported tube (320) (see Figure 3) having a thickness such that the stator structure is able to resist pressure, torque, and axial loads experienced in its intended operating environment (Column 4, lines 31-46), lobes (350) (see Figure 3) arranged in a configuration which is adapted to interact with a rotor (310) (see Figure 3).

Art Unit: 3748

Regarding claim 3, BOTTOS ET AL discloses:

- the elastomer is of uniform thickness (Column 3, line 55 – Column 4, line 7).

However, BOTTOS ET AL fails to disclose the tube is manufactured using a hydro forming process. MARANDO and BIRD ET AL both disclose forming thick-walled tubes using a hydro forming process (Abstract of MARANDO; Page 1, ¶2 of BIRD ET AL). Furthermore, the hydro forming process involves placing the tube into a hydro forming fixture (see Figures 2-4, Column 10, line 63 – Column 11, line 12 of MARANDO; see Figures 1- 3, Page 1, ¶2 – Page 2, ¶1 of BIRD ET AL) to form the lobes that interact with the rotors (as discussed above).

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have formed the thick-walled tube by a hydro forming process in BOTTOS ET AL, since the method of manufacturing thick-walled tubes by the hydro forming process is well known (see MARANDO and BIRD ET AL). Furthermore, it requires routine skill in the art to change one method of manufacturing a tube to another method of manufacturing, when both methods are well known in the art.

Allowable Subject Matter

9. Claims 8, 10, and 19 are allowed.

Response to Arguments

10. The applicant argues on Page 6 that there is no indication that the hydro forming process would work on a stator profile with sufficient accuracy in the thicker ranges in MARANDO and BIRD ET AL. Claim 1 recites a limitation to hydro forming a thick walled stator, and BIRD ET AL teaches hydro forming thicker materials. It would be

Art Unit: 3748

obvious that a stator can be made by the hydro forming process of BIRD ET AL. In addition, the accuracy of the stator is never disclosed by the applicant.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARY A. DAVIS whose telephone number is (571)272-9965. The examiner can normally be reached on Monday thru Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mary A Davis/
Examiner, Art Unit 3748

/Thomas E. Denion/
Supervisory Patent Examiner, Art
Unit 3748